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Apraxia in neurodegenerative diseases

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From its beginning, at the end of the 19th century, apraxia is associated with neurodegenerative diseases. However, very little work has been done in this area; this is particularly relevant for tool use disorders. This lack of interest might be surprising given that the diagnoses of neurodegenerative diseases also require additional deficits such as apraxia. For example, limb apraxia or conceptual apraxia are quite common in patients with Alzheimer's disease and limb-kinetic, asymmetrical, apraxia is one of the most frequent signs in corticobasal degeneration. Another important issue is that of tool use disorders and its definite impact on patients' lives, but there are still very few studies in this field. Moreover, several theoretical questions arise regarding the nature of apraxia in these diseases. Does disorders of skilled movement in these pathologies are qualitatively similar to the apraxic syndromes following left parietal damage? Are they due to global deterioration, inability to access knowledge? First, this presentation will provide a synthetic review of works on apraxia in Alzheimer's disease and an analysis of their methodological and theoretical limits. Then, we will present preliminary data from our research on apraxia in patients with mild to moderate Alzheimer's disease. Performances of these patients on our "apraxia and tool use battery" confirm the reality and heterogeneity of tool use disorders in this disease and highlights the importance of individual analysis. In order to explore more precisely the role of conceptual knowledge in object use, we will also provide evidence from semantic dementia. Finally, we discuss relationships between apraxia and movement disorders (Parkinson disease...), ecological implications of apraxia and future research directions.

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Does therapy of apraxia generalize to daily living?

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Successful therapy beyond the effects of spontaneous recovery has been demonstrated for two domains of action affected by apraxia: Defective use of tools and object and production of communicative gestures for compensation of severe aphasia. However, significant improvements were mainly confined to items that had been directly trained during the therapy sessions. There was at best very limited improvement of untrained items. Published studies did not systematically assess the transfer of improvements into daily living outside the therapeutic context, but anecdotal observations and clinical experience suggest that this is limited too. I will discuss the consequences of limited generalization for the choice of therapeutic approaches. Specifically, I will distinguish between "bottom up" and "top - down" therapy programs and argue that

top down approaches tend to believe in the efficacy of generalisation whereas bottom up approaches rather favour items specific improvements. Based on results from a therapy study for gestural communication I will then discuss the possibility that a same therapy program may be bottom up for one aspect and top down for another and that there may be generalization for single aspects of the trained skills.

Keywords Apraxia; Use of tool; Therapy

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Communication skills fifteen years after vascular aphasia

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Aim Aphasia is a common deficiency that profoundly impairs daily communication. The aim of this study was to describe the severity of aphasia and participation restrictions in daily life communication activities in daily life 10 years or more after a stroke. **Materials and methods** We included patients with aphasia following a stroke before January 2004 from the Archives of Physical Medicine and Rehabilitation department of Pitié-Salpêtrière hospital and from patient associations. Initial clinical and demographic data were collected retrospectively. The severity of aphasia was assessed by the Aphasia Severity Rating Scale (ASRS) and communication skills in daily life by a French communication scale (Échelle de Communication Verbale de Bordeaux).

Results 20 patients have been included, mean age 44 years; acute phase aphasia was always severe. Assessment was conducted 10 to 25 years after the onset (mean 16.8 years), 55% of patients had mild aphasia (ASRS 4–5), 25% moderate aphasia (ASRS 3) and 20% severe aphasia (ASRS 1–2). The most impaired communication skills were reading and writing administrative documents, having a conversation on a complicated subject and conversing with a stranger. **Discussion** Long-term assessment of communication skills shows that 45% of aphasic patients keep significant language impairments. Communication ability, concurring the severity of aphasia, is disturbed at various levels. Personal life seems preserved but vocational integration remains rare.

Keywords Aphasia; Communication; Stroke

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Further reading

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